Safety Data Sheet

Caustic Soda Solution

Version 1.00 Revision Date 09.09.2022

SECTION 1. Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name	Caustic Soda Solution
Synonyms	White Caustic; Lye, Diaphragm Cell (DC) Caustic Soda Solution, Membrane Cell (MBC) Caustic Soda Solution
CAS-No.	1310-73-2

Relevant identified uses of the substance or mixture and uses advised against

Use	Industrial use.

Manufacturer or supplier's details

Company	Sasol Chemicals, a division of Sasol South Africa Ltd
Address	Sasol Place, 50 Katherine Street Sandton 2090 South Africa
Telephone	+27103445000
E-mail address	sasolchem.info.sa@sasol.com
Emergency telephone number	+44 (0)1235 239 670 (Europe, Israel, Africa, Americas) +44(0)1235 239 671 (Middle East, Arabic African countries) +65 3158 1074 (Asia Pacific) +86 400 120 6011 (China) +27 (0)17 610 4444 (South Africa) 0800 112 890 RSA-Local only +61 (2) 8014 4558 (Australia)

SECTION 2. Hazards identification

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Classification	Skin corrosion/irritation	Category 1A

Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms :

Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.

Precautionary statements

Prevention

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash the contact area thoroughly after handling.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P317 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.

P305 + P354 + P338 + P317 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3. Composition/information on ingredients

HAZARDOUS INGREDIENTS

Sodium Hydroxide; Caustic Soda

Contents: >= 47.00 - <= 51.50 %W/W

CAS-No. 1310-73-2 **Index-No.** 011-002-00-6 **EC-No.** 215-185-5

Hazard statements *H314 H290*

SECTION 4. First aid measures

Description of necessary first-aid measures

Inhalation

Remove to fresh air. Get medical attention immediately If breathing has stopped, apply artificial respiration. Do not use mouth to mouth resuscitation. Administer 100% medical Oxygen by facial mask at a feed rate of 12L/min to 15L/min. Keep patient warm and at rest and maintain airway monitor blood pressure and respiration while waiting for medical assistance.

Skin contact

Immediately shower exposed area with large quantities of water for 5 to 15 minutes or until soapiness is gone Completely remove all contaminated clothing and shoes while in a shower. If burns occur, cover the affected area with sterile, dry, loose-fitting dressing. Get medical attention immediately if irritation persists.

Eye contact

Speed is essential. Immediately wash the eye(s) with clean water including under the eyelids, for at least 5 to15 minutes. Take care not to rinse the contaminated water into the unaffected eye. Obtain immediate medical attention. (apply cool packs on eyes while transporting victim to a medical facility).

Ingestion

If swallowed, DO NOT induce vomiting. If the patient is conscious, give very large amounts of water to drink and repeat if vomiting occurs. If vomiting occurs, keep head lower than the hips to help prevent aspiration. Never give anything by mouth to an unconscious person. Maintain airway and respiration and observe/treat as for inhalation. Get medical attention immediately

Most important symptoms/effects, acute and delayed

Refer to SECTION 11

Treatment	Rewash eyes with physiological solution and assess extent of corneal damage.

SECTION 5. Firefighting measures

Suitable extinguishing media	Water spray. Carbon dioxide. Dry chemical. Foam.
Special hazards arising from the substance or mixture	Although non-combustible, this strong base can react with certain metals causing hydrogen generation, which may be explosive mixture Use water spray to cool fire exposed storage containers, until well after fire has been extinguished. Stay away from ends of fire exposed storage tanks. Caustic fumes may accumulate in confined spaces.
Special protective equipment for firefighters	An approved positive pressure self-contained breathing apparatus must be worn. Although it will provide little or no thermal protection, chemical protective clothing must be worn when handling this substance.

SECTION 6. Accidental release measures

Personal precautions	Ensure suitable personal protection during removal of spillage. Cordon off the area and deny entry to non-protected persons and the public. Evacuate to an area away from and upwind of the incident, if possible, to higher ground. Always work upwind of any spill. Do not touch or walk through spilled material. Stop leaks if you can do so without risk. Sodium hydroxide mist is heavier than air, it will accumulate in excavations and confine spaces and natural depressions.
Environmental precautions	Spillage, uncontrolled discharges into watercourses must be reported to the product supplier, DOW and other regulatory bodies -Product supplier, Local Authority, Department of Water Affairs and other appropriate regulatory bodies. Do not allow product/runoff from fire or spillage control to enter sewers, drains or watercourses.
Methods for cleaning up	Absorb with sand or other non-combustible absorbent material

and place into compatible containers for disposal. For a small spillage, allow product to cool and solidify.

Reference to other sections Refer to section 8 and 13

SECTION 7. Handling and storage

Safe handling advice Avoid contact with skin and eyes. Use in well-ventilated areas and keep container closed. When using do not eat, drink or smoke. Always wash hands before after use, before eating, drinking and or smoking. Always wear chemical protective clothing when working with this substance. Avoid generation of mist and do not breathe mist and avoid any direct contact with the product. Eye wash fountains and quick drench showers must be provided within the immediate work area for emergency site.

Advice on protection against fire and explosion Provide sufficient air exchange and/or exhaust in work rooms.Keep away from open flames, hot surfaces and sources of ignition.

Requirements for storage areas and containers Store on a corrosion resistant surface (e.g. epoxy coated concrete).Storage facilities needs to be laid out, designed and maintained in accordance with legal requirements, standard practice - S310-1.Store in tightly closed, designated mild steel containers, in a dry area, away from acids.Store separate from common metals (e.g. aluminium or light alloys) and oxidizing agents.

Advice on common storage No data available.

SECTION 8. Exposure controls/personal protection

Components with workplace control parameters

NATIONAL OCCUPATIONAL EXPOSURE LIMITS

Components	Type	Control parameters	Update	Basis
SODIUM HYDROXIDE	STEL	2 mg/m3	1995	South Africa RELs

Exposure controls

Engineering measures

Mechanical ventilation (dilution and or local exhaust) is recommended for all indoor situations. Eye wash fountains and quick drench showers must be provided within the immediate work area for emergency use.

Personal protective equipment

Respiratory protection	Ventilation and other forms of engineering controls are the preferred means for controlling exposures. Self-contained breathing apparatus (EN 133) Negative pressure canister type respirator masks should be used for escape or short term rescue purposes. In the case of dust or aerosol formation use respirator with filter model .? (according to DIN 3181, 1980).
Hand protection	Impervious gloves
Eye protection	Goggles and a full-face shield must be worn when working with this substance. Wear full-face respiratory protection if there is a possibility of caustic soda fumes being emitted.
Skin and body protection	It is recommended that a hooded chemical resistant(plastic) body suit be worn during operations where there is high risk of exposure. SABS approved acid repellent type overall is recommended. Wear acid resistant impervious gloves when handling the product. -they must be of long type which reach to the elbow and are worn underneath the sleeve. Closed acid resistant shoes must be worn when working with small amounts of this substance. Full length chemically resistant boots must be worn when handling this substance. Hard hat with brim
Hygiene measures	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene

and safety practice.

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

Form	Viscous
State of matter	Liquid; at 20 ° C; 1,013 hPa
Colour	Clear to slightly turbid, colourless, viscous liquid.
Odour	Odourless
Odour Threshold	No data available.
pH	14
Melting point/range	12 ° C; 101.3 kPa
Boiling point/boiling range	140 ° C
Flash point	Non-flammable
Evaporation rate	No data available.
Flammability (solid, gas)	No data available.
Auto-ignition temperature	No data available.
Decomposition Temperature	No data available.
Lower explosion limit	No data available.
Upper explosion limit	No data available.
Vapour pressure	No data available.
Relative vapour density	No data available.
Density	1.5 g/cm3; 20 ° C
Water solubility	Completely miscible
Partition coefficient: n-octanol/water	log Pow: 0
Viscosity, dynamic	78 mPa.s; 20 ° C

SECTION 10. Stability and reactivity

Reactivity	Stable under normal conditions.
Chemical stability	No data available.
Possibility of hazardous reactions	Violent polymerisation can occur when combined with acetaldehyde, acrolein and acrylonitrile.

Conditions to avoid	Heat.
Materials to avoid	Strong oxidizing agents. Strong acids Organic materials
Hazardous decomposition products	Sodium oxides.Contact with metals (aluminum, zinc, tin) and Sodium tetrahydroborate liberates hydrogen gas.

SECTION 11. Toxicological information

Acute oral toxicity	Sodium Hydroxide; Caustic Soda: LD50 Rabbit: 500 mg/kg; (literature value)
Skin irritation	Sodium Hydroxide; Caustic Soda: Rabbit: Severe skin irritation;
Eye irritation	Sodium Hydroxide; Caustic Soda: Rat: Causes serious eye damage.
Sensitisation	No data available.
Repeated dose toxicity	No data available.
Mutagenicity	In vitro tests showed mutagenic effects In vivo tests showed mutagenic effects;
Further Information	No data available.

SECTION 12. Ecological information

Toxicity to daphnia and other aquatic invertebrates	No data available.
Toxicity to daphnia and other aquatic invertebrates	Phenol, carbolic acid; monohydroxybenzene; phenyl alcohol: static test; Ceriodaphnia dubia (water flea); 48 h; EC50; 3.1 mg/l
Toxicity to daphnia and other aquatic invertebrates	Xylenol: Daphnia magna; 24 h; LC50; 150 mg/l
Toxicity to daphnia and other aquatic invertebrates	naphthalene: Daphnia magna; 48 h; LC50; 2.16 mg/l(literature value)
Toxicity to bacteria	No data available.
Toxicity to bacteria	Phenol, carbolic acid; monohydroxybenzene; phenyl alcohol: Nitrosomonas sp.; IC50; 21 mg/l
Toxicity to fish	No data available.
Chronic toxicity in aquatic invertebrates	No data available.

Biodegradability	No data available.
Bioaccumulation	Does not bioaccumulate.
Bioaccumulative potential	No data available.
Results of PBT and vPvB assessment	This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).
Other adverse effects	This product has no known ecotoxicological effects.
Biochemical Oxygen Demand (BOD)	No data available.
Chemical Oxygen Demand (COD)	No data available.

SECTION 13. Disposal considerations

Product	Disposal should be in accordance with local, regional and national legislations.
Packaging	Dispose of spent product packaging responsibly and lawfully with due consideration for health, safety and the environment.

SECTION 14. Transport information

DG Pictogram

ADR

UN number:	1824
Class:	8
Packaging group:	II; C5;
Proper shipping name:	SODIUM HYDROXIDE SOLUTION

RID	
UN number:	1824
Class:	8
Packaging group:	II; C5
Proper shipping name:	SODIUM HYDROXIDE SOLUTION
ADNR	
UN number:	1824
Class:	8
Packaging group:	II; C5
Proper shipping name:	SODIUM HYDROXIDE SOLUTION
IMDG	
UN number:	1824
Class:	8
EmS:	F-A, S-B
Packaging group:	II
Proper shipping name:	SODIUM HYDROXIDE SOLUTION
Marine pollutant	Not a Marine Pollutant
ICAO/IATA	
UN number :	1824
Class:	8
Packaging group:	II
Proper shipping name:	SODIUM HYDROXIDE, SOLUTION

SECTION 15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

EU list of existing chemical substances	All chemical constituents are listed in: EU list of existing chemical substances (See chapter 3)
USA TSCA Inventory	All chemical constituents are listed in: USA TSCA Inventory (See chapter 3)
Canadian Domestic Substances List (DSL)	All chemical constituents are listed in: Canadian Domestic Substances List (DSL) (See chapter 3)
Australian Inv. of Chem. Substances (AICS)	All chemical constituents are listed in: Australian Inv. of Chem.

	Substances (AICS) (See chapter 3)
New Zealand Inventory of Chemicals (NZIoC)	All chemical constituents are listed in: New Zealand Inventory of Chemicals (NZIoC) (See chapter 3)
Jap. Inv. of Exist. & New Chemicals (ENCS)	All chemical constituents are listed in: Jap. Inv. of Exist. & New Chemicals (ENCS) (See chapter 3)
Japan. Industrial Safety & Health Law (ISHL)	All chemical constituents are listed in: Japan. Industrial Safety & Health Law (ISHL) (See chapter 3)
Korea. Existing Chemicals Inventory (KECI)	All chemical constituents are listed in: Korea. Existing Chemicals Inventory (KECI) (See chapter 3)
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	All chemical constituents are listed in: Philippines Inventory of Chemicals and Chemical Substances (PICCS) (See chapter 3)
China Inv. Existing Chemical Substances (IECSC)	All chemical constituents are listed in: China Inv. Existing Chemical Substances (IECSC) (See chapter 3)

SECTION 16. Other information

Full text of H-Statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

All reasonable efforts were exercised to compile this SDS in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The SDS only provides information regarding the health, safety and environmental hazards at the date of issue, to facilitate the safe receipt, use and handling of this product in the workplace and does not replace any product information or product specifications. Since Sasol and its subsidiaries cannot anticipate or control all conditions under which this product may be handled, used and received in the workplace, it remains the obligation of each user, receiver or handler to, prior to usage, review this SDS in the context within which this product will be received, handled or used in the workplace. The user, handler or receiver must ensure that the necessary mitigating measures are in place with respect to health and safety. This does not substitute the need or requirement for any relevant risk assessments to be conducted. It further remains the responsibility of the receiver, handler or user to communicate such information to all relevant parties that may be involved in the receipt, use or handling of this product.

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